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**DHANALAKSHMI SRINIVASAN COLLEGE
OF ARTS & SCIENCE FOR WOMEN
(AUTONOMOUS)**



(For Candidates admitted from 2018-2019 onwards)

UG DEGREE EXAMINATIONS APRIL – 2021

B.SC – COMPUTER SCIENCE

DIGITAL COMPUTER FUNDAMENTALS AND MICROPROCESSOR

Time: 3 Hrs

Max.Marks: 75

PART - A

CHOOSE THE CORRECT ANSWER

(10 X 1 = 10)

1. The digital system usually operated on _____ system.
a) binary b) decimal c) octal d) hexadecimal
2. Which of the following is not an octal number?
a) 44 b) 29 c) 6632 d) 74
3. _____ Are used for converting one type of number system in to other form.
a) Encoder b) logic gate c) half adder d) FA
4. Half adder consist of. _____ & _____ Gates.
a) EX-OR & AND b) EX-OR & OR c) EX-OR & NOT d) OR & NOT
5. An X-OR gate produces an output only when it's two inputs are _____.
a) high b) low c) different d) same
6. The only function of a NOT gate is to _____.
a) stop a signal b) recomplement a signal
c) invert an input signal d) act as a universal set
7. K-map technique generally used up to _____ Variables
a) 2 b) 8 c) 7 d) 6
8. A Register is a group of _____.
a) OR gates b) OR & AND gate c) Flip-flops d) AND gate
9. A microprocessor is _____.
a) an analog device b) an digital device
c) an mobile device d) an calculator
10. If a microprocessor is capable addressing 64k bytes of memory, its address-bus width is
a) 16-bits b) 20 bits c) 8bits d) 32bits

PART - B

ANSWER ALL THE QUESTIONS

(5 X 7 = 35)

11. a) Convert the hexadecimal number E3FA to binary.

(OR)

b) Convert the $(0.513)_{10}$ to octal.

12. a) State the limitations of Karnaugh map.

(OR)

b) Explain the implementation of Don't Care conditions.

13. a) Summarize the various operations of RS flip-flop.

(OR)

b) Why are asynchronous counters referred to as ripple counters?

14. a) Distinguish between the microcomputer and microprocessor.

(OR)

b) How does assembly language get translated into machine language?

15. a) Elaborate the instruction and data formats in microprocessor.

(OR)

b) Describe the categories of the 8085 instruction set.

PART - C

ANSWER ANY THREE QUESTIONS

(3 X 10 = 30)

16. Convert binary number 11011110 into its decimal equivalent.

17. State and prove the Demorgan's Theorem of Boolean algebra.

18. Discuss the half adder in block diagram form and also its logic implementation.

19. Explain the complete architecture of INTEL 8085 microprocessor.

20. Illustrate the addressing modes of 8085 with simple examples.